Studies. Exercise 5: an international multicenter reliability study using computerized MRI erosion volume measurements. J Rheumatol 2003;30:1380–4.

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What are the real effects of arthritis self-management education programs on pain and disability? Comment on the article by Warsi et al

To the Editor:

We read with interest the report by Warsi et al (1) regarding the meta-analysis of the effects of arthritis self-management education programs on pain and disability. Meta-analysis is a powerful tool for bringing together the results of different studies, but meta-analysis itself must be undertaken rigorously if criticism is to be avoided (2). Most important, such an analysis should be performed within the framework of a systematic review of the literature, to avoid bias and ensure appropriate combinability of studies. We have undertaken such a systematic review for the Cochrane Collaboration (3,4), examining the effects of patient education for adults with rheumatoid arthritis (RA) on health outcomes (pain, disability, psychological well-being, disease activity). Our review was restricted to randomized controlled trials (RCTs) of patient education interventions in which patients with a confirmed diagnosis of RA participated. We included all types of patient education programs, not only programs involving self-management education as did Warsi and colleagues.

There are several reasons why the meta-analysis by Warsi et al will be criticized and why its value is limited. First, the search strategy used was not comprehensive, because it omitted studies published in the last 5 years, considered only English-language publications, and searched only in Medline, HealthSTAR, and the reference list of retrieved articles. The Cochrane Collaboration advises investigators to search at least in the electronic databases Medline and Embase, and in the Cochrane Controlled Trials Register (5). (The overlap in journals listed in Medline and Embase is only ~34%.) Warsi et al did not search PsycINFO, the most comprehensive database of citations to psychosocial studies, and did not try to locate unpublished studies. By relying mainly on Medline, it can be expected that only 30–80% of all relevant studies will be identified (6). In our review, we searched Medline, Embase, PsycINFO, and the Cochrane Controlled Trials Register, from 1966 to September 2002 and in all languages, and we searched for unpublished studies. When publications provided incomplete data, we contacted the authors for more information. As a result, 50 studies were identified (4), including at least 18 randomized clinical trials that were not included by Warsi et al. Those trials dealt with patient education programs for patients with RA that contained a self-management education component. Six of the articles had been published before October 15, 1998 (7–12).

Warsi et al did not assess the methodologic quality of studies included in their review, yet quality assessment of individual studies is necessary to limit bias in conducting the systematic review, gain insight into potential comparisons, and guide the interpretation of findings (5). The Cochrane review used 2 independent assessors of methodologic quality to evaluate 4 criteria: selection bias, attrition bias, detection bias, and performance bias (4).

There is great variation among the studies included in the review by Warsi et al with regard to research design (nonrandomized studies were included), types of interventions, types of disease (RA, osteoarthritis, polyarthritis, fibromyalgia), assessment periods, and assessment instruments. The authors therefore used a random-effects model in their statistical analyses and performed a subgroup analysis on interventions that closely resembled the Arthritis Self-Help Course (taught through chapters of the Arthritis Foundation). However, they did not analyze other differences between studies in relation to outcomes. The Cochrane review presents separate analyses for 3 types of interventions: information only, counseling, and behavioral treatment (mainly self-management programs). Furthermore, extensive sensitivity analyses were performed using only studies with high scores for methodologic quality, only larger studies, studies using the same instrument to assess each outcome, and studies that assessed outcomes at a fixed time point (after 2–4 months).

Warsi et al concluded that arthritis self-management education programs lead to small but significant reductions in pain and disability. However, the 95% confidence intervals (95% CIs) for the effect sizes for both pain and disability included 0, meaning the effects were not significant. The results of our more comprehensive review of RCTs of patient education programs for people with RA showed similar overall results. However, in the subanalysis of educational interventions that included techniques aimed at behavioral change (mostly self-management programs) we found, at first followup, a significant beneficial effect of such interventions on disability (standardized mean difference = −0.23, 95% CI −0.36, −0.10). This effect was quite robust, as shown by sensitivity analyses, but the benefit was not maintained after longer followup.

We support Warsi et al in their call for independent high-quality trials of patient education (some of which have been included in the Cochrane review), and we believe that future research should seek to identify which patient characteristics (including the diagnostic category) are relevant to beneficial outcomes, and which components of patient education programs are effective.

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1. Warsi A, LaValley P, Wang PS, Avorn J, Solomon DH. Arthritis self-management education programs: a meta-analysis of the effect on pain and disability. Arthritis Rheum 2003;48:2207–13.
2. Egger M, Smith GD, Sterne JA. Uses and abuses of meta-analysis. Clin Med 2001;1:478–84.
3. Riemsma RP, Taal E, Kirwan JR, Rasker JJ. Patient education programmes for adults with rheumatoid arthritis. BMJ 2002;325:558–9.
4. Riemsma RP, Kirwan JR, Taal E, Rasker JJ. Patient education for

adults with rheumatoid arthritis. Cochrane Database Syst Rev 2003;2:CD003688.
5. Clarke M, Oxman AD, editors. Cochrane reviewers' handbook 4.2.0 [updated March 2003]. In: The Cochrane Library: Oxford: Update Software. Updated quarterly; 2003. Available at: http://www.cochrane.org/resources/handbook.
6. Dickersin K, Scherer R, Lefebvre C. Identifying relevant studies for systematic reviews. BMJ 1994;309:1286–91.
7. Brus HL, van de Laar MA, Taal E, Rasker JJ, Wiegman O. Effects of patient education on compliance with basic treatment regimens and health in recent onset active rheumatoid arthritis. Ann Rheum Dis 1998;57:146–51.
8. Goeppinger J, Arthur MW, Baglioni AJ Jr, Brunk SE, Brunner CM. A reexamination of the effectiveness of self-care education for persons with arthritis. Arthritis Rheum 1989;32:706–16.
9. Kraaimaat FW, Brons MR, Geenen R, Bijlsma JW. The effect of cognitive behavior therapy in patients with rheumatoid arthritis. Behav Res Ther 1995;33:487–95.
10. Lindroth Y, Brattstrom M, Bellman I, Ekestaf G, Olofsson Y, Strombeck B, et al. A problem-based education program for patients with rheumatoid arthritis: evaluation after three and twelve months. Arthritis Care Res 1997;10:325–32.
11. Parker JC, Smarr KL, Buckelew SP, Stucky-Ropp RC, Hewett JE, Johnson JC, et al. Effects of stress management on clinical outcomes in rheumatoid arthritis. Arthritis Rheum 1995;38:1807–18.
12. Taal E, Riemsma RP, Brus HL, Seydel ER, Rasker JJ, Wiegman O. Group education for patients with rheumatoid arthritis. Patient Educ Couns 1993;20:177–87.

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Reply

To the Editor:

We appreciate the comments by Dr. Taal and colleagues regarding our review article on arthritis self-management education programs. They recently published a similar review on education for patients with RA (Riemsma RP, Kirwan JR, Taal E, Rasker JJ. Patient education for adults with rheumatoid arthritis. Cochrane Database Syst Rev 2003; 2:CD003688). Taal and associates express concern regarding the results of our search strategy. Although it is true that the search strategy they used yielded several articles that we had not found, the majority of nonoverlapping references either were published after 1998, the end of our search period, or include interventions that we did not consider primarily educational. We required that education be a major focus of the intervention programs, to limit the heterogeneity of the included studies. Thus, several articles were excluded that described interventions primarily involving innovations in physical therapy, occupational therapy, or psychological counseling programs. Taal et al also suggest "that only 30–80% of all relevant studies will be identified" by relying on Medline; however, more recent research suggests that the proportion has improved substantially, and that the risk of bias from using only Medline in a meta-analysis is small (Sampson M, Barrowman NJ, Moher D, Klassen TP, Pham B, Platt R, et al. Should meta-analysts search Embase in addition to Medline? J Clin Epidemiol 2003;56:943–55).

Another criticism concerns our decision not to include quality scores in the meta-analysis. We assessed the methods of each study and outlined these in table format. However, we elected to not explicitly include a score in the analysis because of the lack of any standard method for scoring the quality of such literature. Other authors have shown that the results of meta-analyses including such quality scores are very sensitive to the scoring system chosen (Juni P, Witschi A, Bloch R, Egger M. The hazards of scoring the quality of clinical trials for meta-analysis. JAMA 1999;282:1054–60).

We found it encouraging that the results of the review by Taal et al on programs for RA and the results of our review were similar—that the long-term effects of self-management education are not significant. Taal and colleagues also examined the results of these programs at first followup and found significant improvement. However, these short-term improvements did not persist.

Because RA and osteoarthritis are chronic diseases, optimal self-management education programs would require the demonstration of a long-term benefit. Unfortunately, as a group, the current programs have not demonstrated such an effect. Further research efforts need to focus on increasing the persistence of benefit for arthritis self-management education programs, determining subgroups of patients that are most likely to benefit, and improving the methods for conducting and reporting the results of such trials.

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Association of the proinflammatory haplotype (MICA5.1/TNF2/TNFa2/DRB1*03) with polymyositis and dermatomyositis

To the Editor:

Polymyositis (PM) and dermatomyositis (DM) are systemic inflammatory connective tissue disorders that likely result from interactions between genetic and environmental risk factors. Earlier studies indicated that certain HLA class II alleles, including HLA–DRB1*03 (HLA–DR3) in Caucasian populations (1) and HLA–DRB1*14 in Korean patients (2), confer risk for development of PM and DM. However, it is not clear whether this is a primary association or an association due to other genes in the HLA region. Because of linkage disequilibrium, the markers in the HLA region may be important not alone, but in the context of common haplotypes. The 8.1 ancestral haplotype (HLA–A1;B8;DRB1*03) includes the TNF2 allele of the TNFA gene (the conventional name for the G-308 TNFA allele is TNF1 and that for the A-308 TNFA allele is TNF2). This haplotype has been associated with high in vitro production of tumor necrosis factor (TNF) by peripheral blood mononuclear cells and also with high circulating serum levels of TNF, and was thus considered a proinflamma-